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AUTHOR Midgley, Carol; And Others
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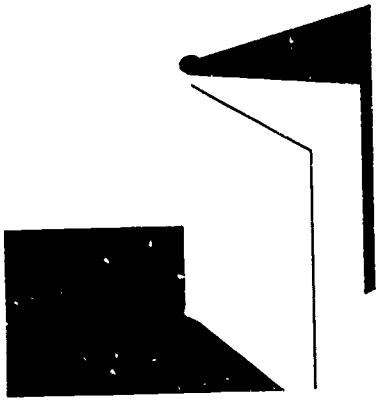
ABSTRACT

There is growing recognition that elementary, junior, and senior high schools are different organizations with different school cultures and different leadership needs. School-level differences in principal leadership behavior, student and teacher perceptions of the school culture, and student and teacher commitment were assessed using data from 160 principals, 171 teachers, and 1,492 students from Illinois. Principals' reports of their behavior were similar across three school levels. Junior high teachers reported more stress on accomplishment and affiliation goals and less emphasis on power goals than teachers at other school levels. Elementary students had the highest, and senior high students the lowest, means on both the culture and the commitment scales. At all three levels, student perceptions of a cultural stress on accomplishment and affiliation were positively related to commitment. At the elementary and junior high levels a perceived stress on recognition, and at the senior level a stress on power, also predicted student commitment. A considerable discrepancy between student and teacher perceptions of the school culture was found. Numerous tables are included. (14 references) (Author/MLH)



A Preliminary Assessment of School Level Differences in Instructional Leadership, School Culture, and Student Commitment

Carol Midgley, Martin L. Maehr, and Julia Smith
The University of Michigan

The National Center for School Leadership

Project Report

University of Illinois at Urbana-Champaign

University High Laboratory School

In collaboration with

The University of Michigan

MetriTech, Inc.

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Center staff

Russell Ames, Director
Martin Maehr, Co-Director
Stephanie Parker, Assistant Director

The National Center
for School Leadership
University of Illinois at Urbana-Champaign
Beckman Institute for Advanced Science
and Technology
405 N. Mathews
Urbana, IL 61801
(217)244-1122 Fax number (217)244-4948

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Scott Thomson
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Lonnie Wagstaff
Professor, Educational Administration, University of Texas at Austin

Project Investigators

University of Illinois at Urbana

Carole Ames, Chair, Educational Psychology
Russell Ames, Director, University High Laboratory School
Ellen Russell, Associate Chair, Educational Psychology
Alan Peshkin, Professor, Educational Psychology
Frederick Wirt, Professor, Political Science

University of Illinois at Chicago

Larry Braskamp, Dean, College of Education

The University of Michigan

C. Philip Kearney, Professor, Education
Martin Maehr, Director, Education and Psychology
Carol Midgley, Project Associate
Karl Weick, Rensis Likert Collegiate Professor, School of Business

MetriTech, Inc.

Samuel Krug, President
Stephan Ahadi, Project Investigator
Chris Scott, Project Investigator

Illinois State Board of Education

Dianne Ashby, Program Development and Delivery

Visiting Scholars

William Boyd, Professor, Education, Penn State University
Robert Crowson, Professor, Educational Administration, University of Illinois at Chicago
Charles Kerchner, Professor, Education and Public Policy, Claremont Graduate School
Douglas Mitchell, Professor, Education, University of California at Riverside

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Carol Midgley
Project Associate
The University of Michigan

Martin L. Maehr
Co-Director of the National Center for School Leadership
Professor, Education and Psychology
The University of Michigan

and

Julia Smith
The University of Michigan

Abstract

School level differences in principal leadership behavior, students' and teachers' perceptions of the school culture, and student and teacher commitment were assessed using data from 160 principals, 171 teachers, and 1492 students from the state of Illinois. Principals' reports of their behavior were generally similar across the three school levels; junior high teachers reported more stress on accomplishment and affiliation goals and less stress on power goals than teachers at the other school levels; elementary students had the highest, and senior high students the lowest, means on both the culture and commitment scales. At all three levels, student perceptions of a cultural stress on accomplishment and affiliation were positively related to commitment. At the elementary and junior high levels a perceived stress on recognition, and at the senior high level a stress on power, also predicted student commitment. There was a considerable discrepancy between student and teacher perceptions of the school culture.

A Preliminary Assessment of School Level Differences in Instructional Leadership, School Culture, and Student Commitment

Much of the research on effective schools, instructional leadership, and school culture has focused on the elementary level. As a result, recommendations resulting from this work may not be appropriate for all levels of schooling. There is growing recognition that elementary, junior, and senior high schools are different organizations with different school cultures and different leadership needs. Firestone and Herriott (1982) point out that the larger size and the departmentalized structure of secondary schools create organizations that are very different from those commonly found in elementary schools. They, along with Weick (1976, 1982) and Glatthorn and Newberg (1984), discuss the special nature of loosely coupled secondary school organizations.

In terms of principal leadership behavior, Firestone and Herriott (1982) suggest that elementary principals may do more to keep track of day-to-day work

and to communicate with staff, whereas secondary principals may be more concerned with issues of resource allocation and external relationships. Because secondary schools are large, department chairs, master teachers, and teacher teams may necessarily assume leadership roles that the principal fills at the elementary level. Because secondary school teachers are subject matter specialists, the principal, who is usually considered to be an educational generalist, may play a less active role in curriculum and instructional decisions. In some cases, teacher committees or teams may assume this function.

In regard to school culture, most of the work that has been done has been ethnographic in nature and has provided case studies of one or a few schools. Recently Maehr and his colleagues (e.g., Maehr & Fyans, in press) have conceptualized school culture in terms of the perceived stress on certain goals (accomplishment, affiliation, recognition, and power). They found that the relationship among school culture, student motivation, and student learning varied across 4th, 6th, 8th, and 10th grades. In particular, student

perceptions of the school culture became an increasingly powerful predictor of motivation with grade level. For better or worse, school culture may be a particularly powerful predictor of student outcomes at the secondary level.

However, there is still a great deal to be learned about school level differences in principal leadership, school culture, and student and teacher outcomes. This report provides preliminary findings regarding school level differences in principal leadership behavior, students' and teachers' perceptions of the school culture, and student and teacher commitment. In particular, it looks at the relation among these variables at each school level and raises issues related to the saliency and coherency of these relationships

Method

The data reported here was collected as part of a large-scale study of principal leadership behavior and school culture conducted under the auspices of the National Center for School Leadership at the University of Illinois in collaboration with MetriTech, Inc.

Sample

The sample includes 160 principals, 171 teachers, and 1492 students from the state of Illinois. Principals come from 74 elementary schools, 36 middle/junior high schools, and 50 senior high schools. Students and teachers come from four elementary schools, two middle/junior high schools, and three senior high schools. Students and teachers are from the same schools, however principals are from different schools. Therefore, analyses looking at the relationship among variables from different sources will be restricted to the student and teacher samples. The principal sample, drawn from the same general population, will be used heuristically to formulate questions regarding the possible leadership antecedents to teacher and student beliefs and perceptions.

Measures

Several types of measures were employed in this study. First, assessments were made of the school culture as perceived by students and teachers. Second, teacher commitment to the school and their job satisfaction were assessed. Student commitment to the

values of the school was likewise assessed. Finally, principal instructional leadership behavior was assessed. A more detailed description of the instruments employed follows. Table 1 contains a description of the constructs in each measure and the alpha coefficient.

School Culture Inventory (ICI - Forms T and S)

Guided by the work of Braskamp and Maehr (1983, 1985), instruments to assess teacher and student perceptions of the school culture were developed. The student form consists of 20 short, multiple-choice statements and can be completed in 5 to 10 minutes. Five options are provided from "Strongly Disagree" to "Strongly Agree." This instrument measures perceived organizational stress on accomplishment, recognition, power, and affiliation, as well as students' reports of their commitment to the values of the school (commitment). The teacher form consists of 55 brief, multiple-choice statements and takes about 20 minutes to complete. This instrument assesses the four dimensions of school culture, as well as teachers' perceptions of the degree to which the staff holds common values

Table 1

Summary of Variables

	Source	# of Items	Alpha	Example
PRINCIPAL LEADERSHIP BEHAVIOR				How often do you:
Defines Mission	ILI*	8	.80	Discuss school goals with students
Manages Curriculum	ILI	8	.74	Make detailed staff improvement plans
Supervises Teaching	ILI	10	.84	Demand more effort from a staff member
Monitors Student Progress	ILI	10	.81	Review a student's performance with a teacher
Promotes Instructional Climate	ILI	11	.85	Encourage a teacher to try out a new idea
STUDENT PERCEPTIONS OF CULTURE STRESSES				From strongly disagree to strongly agree
Accomplishment	ICI-S**	5	.82	This school makes me like to learn
Recognition	ICI-S	4	.66	This school praises good work
Power	ICI-S	4	.71	Competition among students is very high
Affiliation	ICI-S	3	.77	Teachers and students really trust one another
Commitment to School	ICI-S	3	.82	I'm proud I go to this school
TEACHER PERCEPTIONS OF CULTURE STRESSES				From strongly disagree to strongly agree
Accomplishment	ICI-T***	9	.88	This school stresses excellence
Recognition	ICI-T	9	.90	Employees here receive a lot of attention
Power	ICI-T	5	.69	Competition among teachers is actively encouraged in this school
Affiliation	ICI-T	9	.87	This school really cares about me as a person
Strength of Culture	ICI-T	5	.79	I know what this school stresses
Commitment to School	ICI-T	9	.79	I identify with this school
Satisfaction	ICI-T	9	.91	I enjoy the kind of work I do

*Instructional Leadership Inventory
**Instructional Climate Inventory - Form S
***Instructional Climate Inventory - Form T

(strength of culture). Extensive information about the development of all instruments used in this study and the reliability and validity of the scales is available from MetriTech, Inc., Champaign, Illinois (see also, Krug, 1989).

Instructional Leadership Inventory (ILI)

This self-report measure asks principals how frequently they perform 48 instructional leadership tasks that have been associated with measurable improvements in student achievement (Brandt, 1987). Five response options are provided that range from "Almost Never" to "Almost Always." These items focus on five broad categories of instructional leadership: defines mission, manages curriculum, supervises teaching, monitors student progress, and promotes instructional climate.

Results

Correlations Between Constructs and the Three School Levels

Table 2 shows the correlations between the dimensions of school culture, as well as the

correlations between the dimensions of principal leadership behavior, at each school level. For student perceptions of the school culture, the correlations between the four culture stresses are moderately high and show some differences across school levels. In particular, the relation between the perceived stress on power and the perceived stress on recognition becomes stronger with increasing school level. In addition, a stress on power is more highly correlated with student commitment at the senior high level (r = .52) than at the elementary (r = .28) or junior high (r = .39) levels.

For elementary, junior, and senior high teachers, there are some interesting differences across school levels. Accomplishment is highly correlated with affiliation at the elementary and junior high levels, but, at the senior high level, the correlation is only moderate. Likewise, accomplishment and recognition have a weaker relationship for the population of senior high teachers than for elementary and junior high teachers. Power is relatively independent of the other culture stresses at all three levels; however, it has a negative

Table 2

Correlations Between Variables at Three School Levels

Student Perceptions of the Stresses in the Culture

Elementary School

	Commitment	Recognition	Accomplishment	Power
Recognition	.50			
Accomplishment	.65	.55		
Power	.28	.34	.46	
Affiliation	.64	.60	.65	.33

Junior High School

	Commitment	Recognition	Accomplishment	Power
Recognition	.55			
Accomplishment	.65	.62		
Power	.39	.45	.54	
Affiliation	.58	.62	.63	.37

Senior High School

	Commitment	Recognition	Accomplishment	Power
Recognition	.52			
Accomplishment	.67	.62		
Power	.52	.55	.59	
Affiliation	.60	.62	.67	.48

Teacher Perceptions of the Stresses in the Culture

Elementary School

	Satisfaction	Commitment	Power	Accomplishment	Recognition
Commitment	.22				
Power	.15	-.03			
Accomplishment	.60	.39	.18		
Recognition	.53	.30	.19	.86	
Affiliation	.51	.26	.31	.87	.88

Junior High School

	Satisfaction	Commitment	Power	Accomplishment	Recognition
Commitment	.52				
Power	-.15	.05			
Accomplishment	.71	.72	-.07		
Recognition	.82	.73	-.21	.90	
Affiliation	..77	.62	-.10	.88	.89

Senior High School

	Satisfaction	Commitment	Power	Accomplishment	Recognition
Commitment	.36				
Power	-.08	-.06			
Accomplishment	.09	.22	.14		
Recognition	.06	.21	.06	.62	
Affiliation	.10	.09	.00	.42	.75

Principal Reports of Leadership Behavior

Elementary School

	Promotes Instructional Climate	Defines Mission	Manages Curriculum	Supervises Teaching
Defines Mission	.75			
Manages Curriculum	.58	.61		
Supervises Teaching	.81	.78	.59	
Monitors Student Progress	.73	.76	.70	.78

Junior High School

	Promotes Instructional Climate	Defines Mission	Manages Curriculum	Supervises Teaching
Defines Mission	.62			
Manages Curriculum	.67	.68		
Supervises Teaching	.78	.69	.74	
Monitors Student Progress	.60	.ww	.72	.64

Senior High School

	Promotes Instructional Climate	Defines Mission	Manages Curriculum	Supervises Teaching
Defines Mission	.58			
Manages Curriculum	.58	.66		
Supervises Teaching	.72	.62	.66	
Monitors Student Progress	.49	.71	.73	.62

correlation with recognition ($\underline{r}$ = .21) at the junior high level.

The correlations between the various culture stresses (except for power) and teacher satisfaction and commitment are stronger at the junior high level than at the other levels. For example, there is a correlation of .82 between teacher satisfaction and a stress on recognition at the junior high level, whereas the correlation is only .06 among senior high teachers.

The constructs that underlie principals' reports of their leadership behavior are highly correlated at each

school level and do not show much variation in their relationships across the three school levels.

Mean Differences Across School Levels

Using one-way analysis of variance, comparisons of means across school levels were conducted for the student, teacher, and principal scales. For students, there were significant differences across the three school levels on the four culture scales (see Table 3). For all scales, the highest means were at the elementary level and the lowest means were at the senior high level. For teachers, three of the culture constructs showed significant differences across school levels--teachers' perception of an emphasis on accomplishment, affiliation, and power in the culture. In addition, there were level differences in perceptions of the Strength of the Culture. Junior high teachers, as compared to elementary and senior high teachers, perceived the greatest stress on accomplishment and affiliation, and the least stress on power in their schools. Junior high teachers also perceived the most staff unity on goals. There were no significant school level differences in teacher perceptions of a stress on

Table 3

Differences in Leadership Behavior, School Culture, and Satisfaction and Commitment Across School Levels

	Elementary	Junior High	Senior High
Principal Leadership Behavior			
N = 160	74	36	50
Defines Mission			
F = 0.99	.08	.06	-.16
Manages Curriculum			
F = 0.55	.09	-.03	-.001
Supervises Teaching			
F = 0.73	.13	-.08	-.10
Monitors Student Progress			
F = 4.45*	.14	.19	-.34
Promotes Instructional Climate			
F = 0.46	-.02	-.10	.11
Teacher Perceptions			
N = 171	39	23	109
Culture Stresses Accomplishment			
F = 3.05*	-.16	.45	-.03
Culture Stresses Recognition			
F = 1.9	-.06	.34	-.11
Culture Stresses Power			
F = 3.5*	-.22	-.35	.14
Culture Stresses Affiliation			
F = 5.5***	.01	.59	-.18
Strength of Culture			
F = 4.3**	.21	.41	-.16
Satisfaction			
F=1.08	.13	-.26	.02
Commitment			
F=1.2	.21	-.15	-.04
Student Perceptions			
N = 1492	394	312	786
Culture Stresses Accomplishment			
F = 131***	.57	.11	-.36
Culture Stresses Recognition			
F = 88***	.48	.03	-.30
Culture Stresses Power			
F = 37***	.27	.21	-.20
Culture Stresses Affiliation			
F = 91***	.51	-.02	-.29
Commitment			
F = 35***	.32	.05	-.20

Note: Variables have been effect coded so that the mean = 0 and the standard deviation = 1.

* $p < .05$
** $p < .01$
*** $p < .001$

recognition. In addition, teacher commitment and Satisfaction did not vary by school level.

Only one of the variables examined showed significant differences across school levels for principals--their reported frequency of monitoring student progress. Principals in junior high schools scored highest of the three groups on this indicator although the difference between junior high and elementary principals was not significant.

Post hoc comparisons of contrasts between groups (elementary to junior high, junior high to senior high, and elementary to senior high) using the Scheffe' test were significantly different ($p < .001$) with only one exception. The comparison of elementary to junior high on power stress showed no significant differences. Both elementary and junior high, however, were significantly different than the senior high in terms of a stress on power.

Relationship Between School Culture and Student Commitment at the Three School Levels

A regression analysis was undertaken, first, across all three school levels, and then within each level

separately, examining the relation between each of the school culture stresses (student perceptions) and student commitment. This analysis reflects the effects of covariation between variables, utilizing a multivariate, as opposed to a simple univariate, analysis structure. Table 4 shows that for the entire sample, each of the dimensions of school culture contributes to the prediction of student commitment. However, when looking at the three school levels, a stress on accomplishment and on affiliation predict commitment, but recognition is associated with commitment only at the junior high level, and power is associated with commitment only at the senior high level, after taking the effects of the other variables into account.

Relationship Among Teacher Culture Perceptions, Student Culture Perceptions, and Student Commitment at the Three School Levels

A regression analysis within each school level was undertaken, examining the relationship among average teacher culture perceptions, student culture

Table 4

The Relation Between Student Commitment to School and Perceptions of Stresses in the Culture

Variable	Full Group	Elementary	Junior High	Senior High
R^2	.512	.510	.485	.493
Accomplishment Stress	.369***	.392***	.401***	.358***
Recognition Stress	.086**	.087 NS	.152**	.051 NS
Power Stress	.082***	-.041 NS	.020 NS	.165***.
Affiliation Stress	.283***	.349***	.227***	.247***

Note: All regression coefficients are given as standardized beta-weights.

NS not significant at alpha = .05
** p < .01
*** p < 001

perceptions, and student commitment with the following results:

1. Teacher perceptions of the school culture are unrelated to student commitment at the junior and senior high levels; however, at the elementary level, teacher perceptions of an emphasis on power in the school are negatively related to commitment, and their perceptions

of an accomplishment emphasis are positively related to commitment.

2. Teacher perceptions of the culture are unrelated to student perceptions of the culture at the junior high school and elementary level; however, at the senior high level, teacher perceptions of the stress on power in the school are negatively related to student perceptions of a stress on recognition and affiliation.

3. At all three levels, student perceptions of a cultural stress on accomplishment and affiliation in the school are positively related to student commitment. At the high school level, a perceived stress on power also is a positive predictor of commitment; and at the other two levels, a perceived stress on recognition is a positive predictor of commitment. These results are summarized in Table 5. In this analysis, some of the variables did not reach tolerance levels and therefore did not enter the regression equation. This could be due, in part, to a lack of variability in the aggregated variables.

Table 5

The Relation Between Perceptions of the School Culture and Student Commitment at Three School Levels

Perceptions of the School Culture	Elementary	Junior High	Senior High
Average Teacher Power	-.63**	++++	.49
Average Teacher Accomplishment	.53**	.23	++++
Average Teacher Strength of Culture	-.74***	++++	.57**
Average Teacher Affiliation	++++	++++	++++
Student Affiliation	.33***	.23***	.29***
Student Power	-.05	.02	.15***
Student Accomplishment	.46***	.44***	.37***
Student Recognition	.09*	.16**	.05
R^2	.52	.49	.50

Note: All regression coefficients are given as standardized beta-weights

* $p<.05$

** $p<.01$

*** $p<.001$

++++ Did not enter the regression equation

Discussion

In general, principals' reports of their behaviors regarding defining mission, managing curriculum, supervising teaching, and promoting an instructional climate do not differ across the three school levels. Senior high school principals do report less emphasis on monitoring student progress than either elementary or junior high principals. This result is not surprising,

given the larger size and greater degree of bureaucracy in high schools as compared to junior high and elementary schools. Even though secondary schools are thought to be quite different organizations than elementary schools (Firestone & Herriott, 1982; Weick, 1976, 1982), these findings indicate that principals' behaviors are generally quite similar.

Teacher perceptions of the strength of the culture are stronger at the junior high level than at the other levels. In addition, teachers perceive accomplishment and affiliation goals to be strongest at the junior high level, and power goals to be least operative at the junior high level. The low level of power goals at the junior high level (deemphasis of competition and conflict) may actually be another indicator of the relative homogeneity of purpose at this level. This is somewhat surprising. Given recent widely disseminated evaluations on education at the junior high level, one might have expected evidence somewhat to the contrary (e.g., Carnegie Council on Adolescent Development, 1989). A perception of cultural "strength" is sometimes taken as symptomatic of the health of an organization

(see, e.g. Peters & Waterman, 1982). Of course, a strong culture does not necessarily equal a "good" culture. Yet, the emphasis particularly on accomplishment and affiliation (and lesser emphasis on power) may suggest something characteristically sought in schools. Of course, this sample, while reasonably large, cannot necessarily be taken as representative of all schools.

Focusing on the students, it may first of all be noted that when comparing students at the three levels, elementary school students are the most committed to the values of the school and senior high school students are the least committed. Parallel to this, there were also significant school level differences on each of the scales measuring student perceptions of the school culture. Elementary school students perceive the school culture as emphasizing accomplishment, recognition, power and affiliation more than junior high students, and junior high students more than high school students. We might expect some differentiation among these constructs, with perhaps elementary school students perceiving accomplishment and affiliation goal stress

more, and power goal stresses less than junior or senior high school students. The fact that this differentiation did not emerge may mean that younger students perceive a stronger emphasis on goals in general in the school, or it may reflect developmental differences in the students.

Following up on these differences in commitment and perceived culture at the differing levels, it is interesting to consider whether the various cultural stresses have different effects on commitment at the three levels. Apparently they do--and they don't. Student perceptions of a school culture that stresses accomplishment and affiliation predict student commitment at all levels. This continuity across levels is interesting. Perhaps this suggests a kind of basic ingredient associated with student commitment. It is not surprising that the ingredient includes affiliation, but it is noteworthy that is also includes accomplishment. Does this possibly suggest that schools should provide not only a "caring" environment but also an environment that cares about learning. At least the stress on accomplishment may be viewed to hark back to

earliest studies on effective schools in which it was suggested that a stress on excellence was important, while less often calling attention to the importance of interpersonal relationships. Having said that, however, it should be noted that the accomplishment dimension must be distinguished from just any type of stress on learning. Particularly, it should be distinguished from a competitive, social comparison-oriented stress, or on what Ames refers to as a "performance" orientation (Ames, 1987; Ames & Ames, 1989; Ames & Archer, 1988).

The evidence of the greater importance of recognition at the junior high level and power at the senior high level, in predicting student commitment, is of interest. Early adolescence may be a time of life when recognition plays a particularly important role. As students move into large, more bureaucratic junior high schools, it may be particularly important to provide opportunities for recognition to all students. Although senior high school students perceive the least emphasis on power of students at the three levels, it is also the case that perceived stress on power is associated with commitment at that level. Does

competition breed commitment at the senior high level? This issue should be explored in future studies.

Finally, there is little evidence for coherency between student and teacher perceptions of the school culture. If substantiated, this is an important finding. Students and teachers may operate in different worlds. A school may provide multiple opportunities for recognizing teachers without offering similar opportunities to students. Students may feel that the environment supports warm interpersonal relationships while teachers distrust and dislike each other. In addition, teacher perceptions of the cultural stresses in the environment are unrelated to student commitment at the junior and senior high levels. Only at the elementary level are teachers' perceptions of the culture related to student commitment (positively with accomplishment and negatively with power). Thus, in studies of the relation between school culture and student outcomes, it seems important to include student perceptions of the culture, particularly at the secondary level. However, it should also be kept in mind that the strength of this "no difference" finding

rests in part on a statistical procedure that may substantially under-represent the effects. In essence, the low variability that occurs for the "average" perceptions of teachers in a school reduces the amount of potential effect this variable has to predict individual responses by students. Bryk and Raudenbush (1988) describe this problem of aggregation and suggest that further analysis (Hierarchical Linear Modeling) must be undertaken before the lack of significant effects can be accepted. However, the structure of sampling in this data set prohibits this type of analysis. At the very least, this finding would suggest that while teachers' perceptions of the school culture might relate to their attitudes and perhaps behavior, they perhaps would not relate directly to students' perceptions of the school and, in turn, their behavior.

In conclusion, the present study provides preliminary data on an extremely important set of questions. With that, it prompts further questioning and suggests a number of possibilities for future research. Clearly, there is need to tie the relationship of the separable teacher and student

perceptions of school culture to antecedent conditions, and to explore further the reasons for differences in perceptions at different school levels. What is especially needed in the next stage of the research process is to move beyond correlational relationships to study designs that are more appropriate for specifying causal relationships.

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